



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/719,893	12/19/2000	Mitsuhiko Okada	55259USA2A.005	5878

7590 08/22/2002

Lisa M McGeehan
3M Innovative Properties Company
PO Box 33427
St Paul, MN 55133-3427

EXAMINER

BISSETT, MELANIE D

ART UNIT	PAPER NUMBER
----------	--------------

1711

DATE MAILED: 08/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/719,893

Applicant(s)

OKADA ET AL.

Examiner

Melanie D. Bissett

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 13 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 19 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. The rejections using Parker-Hannifin have been maintained. The objection to the specification, the rejections based on 35 USC 112, and other rejections based on 35 USC 102 and 103 have been withdrawn. New rejections have been added as necessitated by amendment.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Parker-Hannifin Corporation.

5. Support for this rejection can be found in a prior Office action, dated 2/13/02, paragraphs 10-12. Additionally, it is noted that Parker-Hannifin teaches using substrates of about 0.0127-0.127 mm (12.7-127 μ m) (p. 15 lines 8-15). Since ranges

reciting "about" are conventionally interpreted to encompass $\pm 10\%$, it is the examiner's position that the reference encompasses substrates having a thickness of 12 μm .

6. Claims 1-7 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Bujard.

7. Bujard discloses a laminate comprising a substrate having a thickness of 10-100 μm and an adhesive layer applied to at least one surface which contains a heat-conductive filler (abstract), thus providing a heat conductive sheet. Since the reference teaches at least one coated side of a substrate, one skilled in the art would envision both single- and double-sided adhesive substrates. Substrates include films, foils, or cloths of metal or synthetic resin (col. 2 lines 3-7). Since metal foil substrates are chosen instead of plastic film, and since claim 3 does not limit a plastic film to be chosen, the reference anticipates any limitation of the plastic film. Suitable adhesives, which may be provided with a release film, include polyurethanes, polyacrylates, and silicones (col. 2 lines 20-29). Bujard cites boron nitride, silicon carbide, and other inorganic fillers as heat conductive fillers.

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Parker-Hannifin Corporation.

10. Support for this rejection can be found in the Office action dated 2/13/02, paragraphs 15-16.

11. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Parker-Hannifin Corporation in view of Eddy et al.

12. Support for this rejection can be found in the Office action dated 2/13/02, paragraphs 17-18.

13. Claims 10, 13, and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parker-Hannifin Corporation in view of Matsushita Denki.

14. Support for this rejection can be found in the Office action dated 2/13/02, paragraphs 21-22. Additionally, Parker-Hannifin teaches that the coatings may be cured (p. 15 lines 18-22) and may be faced with a release liner (p. 8 lines 15-18).

15. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bujard.

16. Bujard applies as above, lacking exemplification of including both silicon carbide and boron nitride particles in the adhesive compositions of the invention. However, the reference does note the use of mixtures of the components (col. 2 lines 51-58). It is the examiner's position that it would have been prima facie obvious to include both silicon carbide and boron nitride particles in the silicon adhesive of the invention in the expectancy of forming a tape having equally improved thermal conductivity.

17. Claims 10-14 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bujard in view of DuPont.

18. Bujard teaches that adhesives may be applied in molten form (col. 2 lines 23-26). Bujard applies as above, teaching methods for applying coatings by known coating methods including brushing and doctor coating (col. 2 lines 59-62) but failing to specifically teach the steps of supporting the substrate and removing the substrate from the support after coating. Du Pont teaches an improved method of coating by supplying a substrate support for the substrate and metering and supplying a coating solution by meyer bar onto the substrate (p. 2 line 33-p. 3 line 11), where the meyer bar acts similarly to a doctor bar to "squeegee off" excess liquid coating (p. 4 lines 16-30). The product would be removed from the support to be used. Since the coating apparatus provides a substantially uniform coating, it is the examiner's position that it would have been prima facie obvious to use the meyer rod method of DuPont's teaching in Bujard's invention to provide coatings having improved uniformity. Thus, the use of molten adhesive and meyer bar coating suggests the use of heat and an amount of pressure to coat the substrate.

Response to Arguments

19. Regarding the applicant's argument that Parker-Hannifin teaches substrate thickness ranges of 0.0127-0.127 mm and thus does not teach the applicant's claimed 1-12 μm , it is noted that the reference teaches thicknesses of *about* 0.0127-0.127 mm (12.7-127 μm). Since ranges reciting "about" are conventionally interpreted to

encompass $\pm 10\%$, it is the examiner's position that the reference encompasses substrates having a thickness of 12 μm .

20. In response to the applicant's argument that the abrasive nature of the heat conductive filler would have precluded reasonable expectation of success of using the conveyor coating process of Matsushita Denki, it is noted that the applicant has not provided arguments or evidence to suggest how the abrasive nature of the filler would have affected the material such that a conveyor operation would not be envisioned as useful. Regarding the applicant's arguments that the references are not combinable due to the double-sided nature of Parker-Hannifin's adhesive substrate, it is the examiner's position that one skilled in the art would recognize that the coating method could be used for separately coating each side of the substrate. Parker-Hannifin suggests that conventional methods such as spraying, knife coating, casting, etc. should be used to form the adhesive materials of the invention (p. 15 lines 16-28). Matsushita Denki teaches a conventional method of spray coating; thus, it is the examiner's position that one of ordinary skill in the art would look to Matsushita Denki as a method for coating each side of Parker-Hannifin's substrate.

Conclusion

21. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

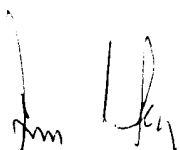
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie D. Bissett whose telephone number is (703) 308-6539. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (703) 308-2462. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

mdb
August 19, 2002


James J. Seidleck
Supervisory Patent Examiner
Technology Center 1700